

AMENDMENTS TO THE CLAIMS:

Replace the following claims with the revised version:

1. (Original) A/D converter comprising a self-oscillating modulator, said converter comprising
at least one self-oscillating loop comprising
at least one forward path,
at least one feedback path,
wherein said at least one forward path comprises amplitude quantizing means combined with time quantizing means and outputting at least one time and amplitude quantized signal.
2. (Original) A/D converter comprising a self-oscillating modulator according to claim 1, wherein said time quantizing means is arranged within said self-oscillating loop.
3. (Currently Amended) A/D converter comprising a self-oscillating modulator according to claim 1-~~or~~2, wherein said time quantizing means comprises a high-speed sampling means.
4. (Currently Amended) A/D converter comprising a self-oscillating modulator according to ~~any of the~~ claims 1-3, wherein said time quantizing means comprises a high-speed one-bit sampler.
5. (Currently Amended) A/D converter comprising a self-oscillating modulator according to ~~any of the~~ claims 1-4, wherein said time quantizing means comprises latch-based circuitry comprising at least one latch, preferably at least two cascaded latches.
6. (Currently Amended) A/D converter comprising a self-oscillating modulator according to ~~any of the~~ claims 1-5, wherein said amplitude quantizing means and said time quantizing means comprises a multi-bit A/D converter and where said feedback path

comprises at least one D/A converter adapted for converting said time quantized signal into an analogue signal.

7. (Currently Amended) A/D converter comprising a self-oscillating modulator according to ~~any of the~~ claims 1-6, wherein down sampling means are connected to said time quantizing means.

8. (Currently Amended) A/D converter comprising a self-oscillating modulator according to ~~any of the~~ claims 1-7, wherein said A/D converter comprises two or more self-oscillating loops (SOL).

9. (Currently Amended) A/D converter comprising a self-oscillating modulator according to ~~any of the~~ claims 1-8, wherein said amplitude time quantizing means comprises an analogue two-level self-oscillating pulse width modulator.

10. (Currently Amended) A/D converter comprising a self-oscillating modulator according to ~~any of the~~ claims 1-9, wherein said amplitude time quantizing means comprises a multi-level self-oscillating pulse width modulator.

11. (Currently Amended) A/D converter comprising a self-oscillating modulator according to ~~any of the~~ claims 1-10, wherein said A/D converter is single-ended.

12. (Currently Amended) A/D converter comprising a self-oscillating modulator according to ~~any of the~~ claims 1-11, wherein said A/D converter is differential.

13. (Currently Amended) A/D converter comprising a self-oscillating modulator according to ~~any of the~~ claims 1-12, wherein said A/D converter comprises filtering means, said filtering means adapted for band pass filtering the time quantized signal.

14. (Currently Amended) A/D converter comprising a self-oscillating modulator according to ~~any of the~~ claims 1-13, wherein ~~the~~ an error originating from at least one time quantizer included in the at least one self-oscillating loop of the converter is suppressed by an error transfer function which, at low frequencies approximates ~~the~~ an inverse of ~~the~~ an open-loop transfer function of said at least one self-oscillating loop.
15. (Currently Amended) A/D converter comprising a self-oscillating modulator according to ~~any of the~~ claims 1-14, wherein ~~the~~ an error originating from at least one time quantizer included in the at least one self-oscillating loop of the converter is suppressed by an error transfer function which, at high frequencies approximates 0 dB.
16. (Currently Amended) A/D converter comprising a self-oscillating modulator according to ~~any of the~~ claims 1-15, wherein said amplitude quantizing means comprises a limiter.
17. (Currently Amended) A/D converter comprising a self-oscillating modulator according to ~~any of the~~ claims 1-16, wherein said amplitude quantizing means comprises a frequency compensated limiter.
18. (Currently Amended) A/D converter comprising a self-oscillating modulator according to ~~any of the~~ claims 1-17, wherein a variable self-oscillating loop delay is applied.
19. (Currently Amended) A/D converter comprising a self-oscillating modulator according to ~~any of the~~ claims 1-18, ~~wherein~~ further comprising a variable delay in the feedback path.
20. (Currently Amended) A/D converter comprising a self-oscillating modulator according to ~~any of the~~ claims 1-19, wherein a transfer function $H(s)$ is inserted in the forward path, thereby at least partly controlling ~~the~~ a switch-frequency.

21. (Original) Method of performing a A/D-conversion comprising the steps of representing a pulse width modulated representation as an analogue signal and quantizing the pulse width modulation in the time-domain.

22. (Original) Method of performing an A/D-conversion according to claim 21, whereby said pulse width modulated representation is obtained by means of at least one self-oscillating modulator comprising at least one self-oscillating loop.

23. (Currently Amended) Method of performing an A/D-conversion according to claim 21 ~~or 22~~, whereby in said quantization in the time domain is performed within said at least one self-oscillating loop.

24. (Currently Amended) Method according to ~~any of the claims 21-23~~, whereby said method is applied in an A/D converter ~~according to any of the claims 1-20~~ comprising at least one self-oscillating loop comprising at least one forward path, at least one feedback path, wherein said at least one forward path comprises amplitude quantizing means combined with time quantizing means and outputting at least one time and amplitude quantized signal.